Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

substances, in which his former conclusions regarding *pseudo-symmetry* appear to be confirmed.——Hintze reports the discovery of *Danburite* in Switzerland, on the Scopi. The crystals were at first thought to be topaz, which they closely resemble. The angles measured corresponded closely with those of the American mineral.——A nugget of gold, weighing forty-four pounds, has been found in the Ural district. This is the largest nugget ever found in Russia.——It is reported that natural sulphuric acid has been found in large quantity in Sweetwater county, Wyoming. The ground for a space of one hundred acres or more is impregnated with the acid, which is said to be of pure quality.

BOTANY.[1]

THE INTERPRETATION OF SCHWEINITZIAN AND OTHER EARLY DESCRIPTIONS.—In working up the flora of Iowa, it has been necessary in a number of instances to identify Schweinitzian species of microscopic fungi. I have had in the Herb. Curtis and Ravenel's Exsiccati, specimens upon the same species of host recorded by Schweinitz, and from the same immediate locality, to compare with his descriptions. In several cases I have been quite confounded to find that no reasonable interpretation of his language would make the descriptions fit the undoubted duplicates of the originals from which the descriptions were taken. The following instances, which have probably puzzled many other botanists, will serve as illustrations:

The uredineous fungus, abundant on various species of Lespedezæ, forming blackish spots on the leaves, and now known as *Uromyces lespedezæ*, is quite fully described by Schweinitz, under the genus Puccinia. He makes two species, one of which has spores that are distinctly two-celled or bilocular, and the other those that are sub-bilocular. In the former he says the "septum is situated *exactly in the middle* of the spore," while in the latter it is barely conspicuous (Syn. Fung. Car., p. 73). A glance under a common microscope, however, reveals the incongruous fact that the spores are but one-celled, and that there is *not even a shadow of a septum.* How is such an egregious blunder to be reconciled with the accuracy characteristic of science and scientific men? This cannot be a slip of the pen, for in his Synopsis of North American Fungi, published nine years later, there is no correction, and the species still remain in the genus Puccinia, which would not be the case if he had ascertained in the meantime that the spores were unicellular.

Another equally remarkable instance is that of the common Uromyces on Desmodium. In the earlier work the spores are said to be obscurely septate with very long pellucid pedicels (l. c., p. 74). In the later work he describes the species at greater length and adds that the pellucid pedicels are *jointed* (l. c., p. 297). As these spores have considerable resemblance to those of many Pucciniæ, and although but one-celled are quite opaque, we can almost make ourselves believe that, assuming the relationship from their general appearance, he easily persuaded himself that a septum must be present although not readily demonstrated. But this explanation will not do in the preceding instance, or in the case of the jointed pedicel, for both are transparent, and the latter perfectly colorless.

---

[1] Edited by PROF. C. E. BESSEY, Ames, Iowa.

These are selected from plenty of such discrepancies between Schweinitz's descriptions and the objects described. It will not answer to throw such works aside and refuse to take trouble with an author who describes so carelessly, or, as it would seem, deliberately falsifies, for the law of priority in synomymy is inexorable, and early descriptions must be identified so far as possible.

Upon reflection, however, it does not appear probable that any one would falsify a scientific description, for there is no assignable motive for doing so, Let us rather look for a solution of the problem to the facilities possessed in the author's time for minute observations. Microscopes were then much inferior to our present instruments, and methods of manipulation not so well known. This was a suggestive idea, and I at once acted upon it by putting some of the dry spores under a low-power to see whether they looked the same, except in size, as when mounted in the usual way in water, and viewed under 350 diameters. A few spores scraped from the surface of the leaf were scattered on a glass slide, a half-inch objective used, magnifying about 75 diameters, and the key to the whole mystery was discovered.

The spores of *Uromyces lespedezæ* are much thickened at the apex, this thickening often occupying half the length of the spore, and it gives every appearance, under the conditions named, of a two-celled spore with a septum at or near the middle. The instance of the jointed pedicel is equally simple. The pedicels being delicate cylinders collapse when dry, and twist like a ribbon, and what appear to be three or four joints in each pedicel are very distinctly shown.

I have narrated this experience of mine chiefly for two reasons: (1) to give others this important key with which to interpret the writings of Schweinitz and other early systematists, and (2) to show the importance of noting very carefully the kind of instrument used and the methods employed in all microscopic work. —*J. C. Arthur, Ames, Iowa.*

WATSON'S "CONTRIBUTIONS TO AMERICAN BOTANY. X."—Mr. Watson has just sent out another of his interesting contributions as a pamphlet of 66 pp., extracted from Vol. XVII of the Proc. of the Am. Academy of Arts and Sciences. It consists of, I, A list of plants from Southwestern Texas and Northern Mexico, collected chiefly by Dr. E. Palmer in 1879–80; and, II, Descriptions of new species of plants, chiefly from our Western Territories. The first includes the "Polypetalæ" only, and is much more than a list, containing descriptions of many species, and notes upon many others.

BOTANY IN MINNEAPOLIS.—The Summer School of Science at the University of Minnesota last year proved to be very popular. The session extended through the month of July, and was favored with delightful weather, only two or three days being at all uncomfortably warm.

The botanical part of the course, under Mr. J. C. Arthur, consisted of lectures, laboratory work, and collecting excursions. The botanical laboratory, supplied with simple and compound microscopes, was open from 9.30 A. M. to 6 P. M. Forty students availed themselves of its privileges.

A small part of the time was given to the study of plants with no other aid than the common hand lens. Besides illustrating a method of careful observation, it was designed to show that instruction need not be confined to flowering plants because a compound microscope is not obtainable. For this purpose four plants were used: dark green scum (Oscillatoria), large tree lichen (Parmelia), common liverwort (Marchantia), and milkweed (*Asclepias cornuti*).

The work with the compound microscope covered in the main the same ground as the lectures, which were as follows: 1. A survey of the science; 2. Protoplasm; 3. The cell, and cell-structures; 4. Protophyta, the sexless plants; 5. Zygosporeæ, the unisexual plants; 6. Oosporeæ, the egg-spore plants; 7 and 8. Carposporeæ, the red sea-weeds and their allies; 9. Bryophyta, the mosses and liverworts; Pteridophyta, the ferns and their allies; 11. Phanerogamia, the seed-bearing plants, (I) the conifers and their allies; 12. Same, (II) the flowering plants proper; 13. General histology of tissues; 14. Movement of water and gases in the plant; 15. Assimilation and metastasis; 16. Movements of plants; 17. Modes of fertilization; 18. Dissemination of seeds; 19. Insectivorous plants.

SYLLOGE FUNGORUM OMNIUM HUCUSQUE COGNITORUM. By Professor P. A. Saccardo, Padova, Italy.—The first volume of this long expected work has at length appeared and will help to satisfy a want that has long been felt by the students of mycology. The volume forms a large octavo of 768 pages, with descriptions of nearly 2900 species of Sphæriceous Fungi. Adding greatly to the practical value of the work are the *habitat lists* inserted after each of the different families or sub-divisions and giving in alphabetical order, names of the trees and plants on which the species grow, with numbers referring to the descriptions of the species found on each. The low price (49 francs) at which the volume is published places it within the reach of all.—*J. B. Ellis, Newfield, N. J.*

Dr. Gray's Revision of the Species of Echinospermum.—In the recently received "Contributions to North American Botany" by Dr. Gray in Vol. xvii of the Proc. of Am. Acad. of Arts and Sciences, the following corrections are made in the disposition of the species of Echinospermum, as given in Gray's Synoptical Flora of N. A., pp. 188 and 189.

E. virginicum Lehm.
E. pinetorum Greene; a new species trom New Mexico.
E. deflexum Lehm.
E. ursinum Greene; a new species from New Mexico.
E. floribundum Lehm; "the synonym *E. subdecurrens* Parry is to be suppressed, as it belongs to the next."
E. diffusum Lehm; this is not the *E. diffusum* of the Synoptical Flora. (See below).
E. ciliatum Gray; this is the the *Cynoglossum ciliatum* Dougl. of the Syn. Flora. It also includes *C. howardi* Gray.
E. californicum Gray; this includes the large flowered specimens which in the Syn. Flora were described under *E. diffusum*. The true *E. diffusum* is the small-flowered species, specimens of which were mixed up with those of *E. californicum*.

The remaining species were unchanged.

ENTOMOLOGY.[1]

New Lists of North American Lepidoptera.—During the year 1882 three different lists or catalogues of Lepidoptera have been published. The first, issued in January, is "A check-list of the Macrolepidoptera of America, north of Mexico," published by the Brooklyn Entomological Society. In the preface the publication committee modestly disclaims all authority or intention to pass upon the validity of any of the species contained in the list, which is rather offered as filling a long-felt want by lepidopterists, to facilitate the exchange of specimens and the arranging of collections. Some 3204 species are enumerated, the Tortricina and Tineina not included. While by no means perfect, this list has the advantage of representing in most respects the views held by the bulk of lepidopterists. It is arranged on the general plan of Crotch's Check-list of Coleoptera (omitting, however, all synonymical matter), the works of Wm. H. Edwards, Boisduval, Staudinger, Stretch and Packard being followed, and the author of the species instead of that of the more recent generic combination being given. The list has proved very useful to lepidopterists, and will be followed, we hope, with supplements from time to time, or, what were better, new and improved editions.

The second publication we would call attention to, is something more than a list. It is very properly called "A Synonymical Catalogue of the described Tortricidæ of America, north of Mexico," by C. H. Fernald, A.M., professor of natural history in the Maine State College. It was issued by the American Entomological

---

[1] This department is edited by Professor C. V. Riley, Washington, D. C., to whom communications, books for notice, etc., should be sent.